other air interfaces, such as CDMA, have begun introducing their own PTT services. However, for purposes of roaming, these technology platforms are not compatible with iDEN.

iDEN carriers are further differentiated by the fact that they alone among domestic CMRS carriers give their customers the option of using handsets that are designed to military specifications for ruggedness, durability, and the ability to operate in harsh and adverse conditions. This makes iDEN carriers the logical communications choice for public safety agencies as well as for businesses whose employees must often work in challenging environments, such as public utility storm recovery crews.

Overall, iDEN customers rely on or value the unique services, capabilities, and characteristics that can only be found on iDEN systems. These customers are highly unlikely to switch to a carrier using a different air interface, such as GSM or CDMA, since this would mean losing these very features and services. This is supported by information and analysis in the *Sprint/Nextel Merger Application*, wherein the Applicants repeatedly point out that the services currently provided by Sprint and Nextel are not close substitutes for each other.[14]

Those carriers currently providing commercial iDEN-based services in the United States are as follows:

[14] / *Sprint/Nextel Merger Application* at 25, 78 – 79, Attachment B at ¶¶ 86 – 106, 126, and 156, and Attachment C at ¶¶ 10 – 11.

A. Nextel Communications, Inc.

Nextel Communications, Inc. ("Nextel") is currently the only nationwide carrier that utilizes the iDEN platform. According to the *Sprint/Nextel Merger Application*, Nextel currently provides services in 202 of the top 300 MSAs in the United States and, together with its affiliate, Nextel Partners, Inc., serves 297 of the top 300 MSAs.[15] Nextel's only two-way roaming arrangement in the United States is with its own affiliate Nextel Partners.[16]

B. Nextel Partners, Inc.

Nextel Partners, Inc. ("Nextel Partners") provides services under the Nextel brand name in mid-size, secondary, and rural U.S. markets and has the right to operate in 98 of the top 300 MSAs in the United States.[17] According to the *Sprint/Nextel Merger Application*, Nextel owns approximately 32% of the outstanding stock of Nextel Partners, and consummation of the proposed merger could trigger the exercise of a "put" option by Nextel Partners that would result in full ownership of Nextel Partners by the merged Sprint/Nextel entity.[18] The only domestic carrier with whom Nextel Partners has entered into a roaming agreement is Nextel.

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[15] / *Sprint/Nextel Merger Application* at 14.

[16] / *Id.* at 39.

[17] / *Id.* at 16.

[18] / *Id.* at 16-17. If the Sprint/Nextel merger is consummated, the shareholders of Nextel Partners would have the right to vote to require Sprint/Nextel to purchase the remaining Nextel Partners shares that Nextel does not already own. According to the *Sprint/Nextel Merger Application*, the right to exercise this option "may extend for a substantial time after the Sprint Nextel merger is consummated." *Id.*

C. SouthernLINC Wireless

SouthernLINC Wireless is the only iDEN-based CMRS carrier in the United States that is not affiliated with Nextel and which is not a party to the proposed merger.

SouthernLINC Wireless is a wholly owned subsidiary of Southern Company, which is a registered holding company under the Public Utility Holding Company Act of 1935. As a CMRS provider, SouthernLINC Wireless operates a digital 800 MHz ESMR system using iDEN technology to provide dispatch, interconnected voice, Internet access, and data transmission services over the same handset.

SouthernLINC Wireless provides these services to almost 300,000 subscribers in a 127,000 square mile service territory covering Georgia, Alabama, southeastern Mississippi, and the panhandle of Florida. SouthernLINC Wireless offers the most comprehensive geographic coverage of any mobile wireless service provider in Alabama and Georgia, serving the extensive rural territory within its footprint as well as major metropolitan areas and highway corridors.

SouthernLINC Wireless currently has a roaming arrangement with Nextel that allows its customers to receive basic interconnected voice roaming service on Nextel's network at rates that are much higher than is typical in the industry for roaming. However, Nextel will not provide SouthernLINC Wireless customers with access to PTT digital dispatch roaming service (one of the key features of iDEN services) or data service when roaming on its network, even though Nextel provides all of these roaming services to customers of Nextel Partners and to Nextel's international partners in Canada and Mexico. Furthermore, Nextel does not permit its own customers to roam on SouthernLINC Wireless' network, and it objects to Nextel Partners doing so.

As described in more detail below, SouthernLINC Wireless has been unable to reach an agreement on roaming with Nextel Partners.

III. SOUTHERNLINC WIRELESS' EFFORTS TO OBTAIN ROAMING WITH NEXTEL AND NEXTEL PARTNERS

SouthernLINC Wireless' efforts to obtain roaming agreements with Nextel stretch back nearly ten years to 1996 and have been filled with delays and frustration. These efforts have been well-documented with the Commission through numerous filings and *ex parte* presentations over the course of these years.[19] Rather than recite all of the details from these previous filings, SouthernLINC Wireless provides below a summary of these efforts and incorporates its previous filings by reference.

From 1996 until early 2001, SouthernLINC Wireless was unable to obtain any roaming agreement with Nextel. During this time, Nextel refused to provide SouthernLINC Wireless with even *manual* roaming, despite its clear regulatory obligation under the Commission's Rules to do so. Nextel repeatedly claimed that technical issues made it impossible to provide roaming to SouthernLINC Wireless, even though both carriers operated in the same frequency ranges using the same Motorola iDEN technology and handsets. Nextel held to this position until at least 2001 despite the fact that, not only was manual roaming feasible, but automatic roaming could be implemented with only minor technical changes.

However, Nextel apparently did not have any technical problems in implementing an automatic roaming agreement in 1997 with Clearnet Communications (now Telus), an

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19 / *See, e.g.*, Comments, Reply Comments, and *ex parte* filings made by SouthernLINC in the Commission's proceedings on *Interconnection and Resale Obligations Pertaining to Commercial Mobile Radio Services*, CC Docket No. 94-54, and *Automatic and Manual Roaming Obligations Pertaining to Commercial Mobile Radio Services*, WT Docket No. 00-193.

unrelated Canadian iDEN carrier that also uses the same Motorola equipment and technology as both Nextel and SouthernLINC Wireless, as well as subsequent agreements with a number of other international iDEN carriers. Similarly, Nextel and Nextel Partners have had an automatic roaming agreement with each other since 1999, shortly after Nextel Partners was incorporated.

Finally, in August 2001, after extended negotiations, Nextel finally agreed to enter into a rudimentary automatic roaming agreement that would allow SouthernLINC Wireless customers to roam on Nextel's network. However, this agreement is not reciprocal, since Nextel did not agree to let its own customers roam on SouthernLINC Wireless' network. As a result, Nextel is the recipient of any and all roaming revenues between the two companies and is able to charge SouthernLINC Wireless roaming rates that are well above industry standards. In addition, the agreement limits SouthernLINC Wireless customers to basic interconnect voice roaming only, and denies them digital dispatch or data roaming.

Furthermore, Nextel delayed the actual launch of basic voice roaming for SouthernLINC Wireless customers until June 2003, nearly two years after execution of a roaming agreement between the parties. Coincidentally, this was within days of Nextel's launch of its own nationwide digital dispatch roaming service with Nextel Partners, meaning that customers of Nextel and Nextel Partners could now enjoy voice and digital dispatch roaming on each other's networks, while SouthernLINC Wireless customers were (and still are) limited to basic voice roaming.

SouthernLINC Wireless' efforts to obtain a roaming agreement with Nextel Partners have been even more strenuous. At the outset, Nextel Partners attended the roaming negotiations between Nextel and SouthernLINC Wireless, thus creating the distinct impression that they were negotiating together with SouthernLINC Wireless as a single party. However, once the above-mentioned agreement was reached, Nextel Partners stated that it would not honor the prices agreed to by Nextel during the negotiations. Later, Nextel Partners verbally consented to sign an agreement with SouthernLINC Wireless largely similar to the Nextel agreement, but would only do so if SouthernLINC Wireless agreed to certain unreasonable conditions, such as the exclusion of select markets from the agreement and the imposition of an exorbitant pricing structure.

Last year, Nextel Partners approached SouthernLINC Wireless about the possibility of entering into a reciprocal roaming arrangement. However, when SouthernLINC Wireless expressed interest in entering into negotiations over such an arrangement, Nextel Partners advised that it needed to check with Nextel first. Nextel apparently refused to give permission to Nextel Partners to enter into reciprocal roaming with SouthernLINC Wireless because Nextel Partners withdrew its proposal soon after checking with Nextel.

To this day, Nextel Partners has consistently responded to SouthernLINC Wireless' requests for roaming with unreasonable conditions, including roaming rates that are nearly double the already excessive rates that SouthernLINC Wireless pays to Nextel. SouthernLINC Wireless is therefore still without any type of roaming agreement with Nextel Partners whatsoever.

Based on these experiences, SouthernLINC Wireless is very concerned that, if the roaming practices of Nextel and Nextel Partners are carried over unchanged into the new, larger Sprint-Nextel company, SouthernLINC Wireless will be unable to obtain any future roaming agreements or will be told that roaming will only be made available on a non-reciprocal basis and/or at unreasonably high rates. These concerns are reinforced by the fact that, unlike the merger applications filed by Cingular and ALLTEL, the *Sprint/Nextel Merger Application* barely mentions the Applicants' current roaming arrangements and is completely silent as to their intentions regarding their roaming partners following consummation of the merger.

IV. MARKET FORCES ALONE ARE NOT SUFFICIENT IN THIS CASE TO ENSURE ROAMING IS AVAILABLE TO ALL WIRELESS CUSTOMERS

As the Commission recognized in the *Cingular/AT&T Order*, the availability of roaming is an essential component of the CMRS market, and any assessment of whether a proposed merger or consolidation of CMRS carriers is in the public interest must necessarily consider the transaction's impact on the availability of roaming services for consumers of mobile telephony services. [20]

Although carriers are required to provide manual roaming services (when technically feasible) under Section 20.12(c) of the Commission's Rules, 47 C.F.R. § 20.12(c), the Commission has thus far declined to impose any regulatory obligations on carriers regarding the rates, terms, or conditions for the provision of either manual or automatic roaming services because such issues have generally been addressed by competitive market forces.[21] However, market forces alone are not sufficient in this case to ensure that roaming is available to all wireless customers.

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[20] / *Cingular/AT&T Order*, ¶¶ 166 – 182.

[21] / *See, e.g., Id.* at ¶¶ 174 – 176.

The most obvious obstacle to roaming is technology. As the Commission has previously stated, "*the number of potential roaming partners in a given geographic* market is still limited by technological incompatibility and frequency bands."[22] In other words, a GSM carrier cannot roam on a CDMA carrier's network, and an iDEN carrier can only roam on the network of another iDEN carrier.

Another obstacle is the degree to which carriers have an incentive to enter into a roaming agreement with a requesting carrier. In the *Cingular/AT&T Order*, the Commission stated that nationwide carriers still have holes in their licensed service areas "and therefore have a strong incentive to enter into roaming agreements with other carriers in order to fill in coverage gaps [and] compete on the basis of coverage."[23] Nextel's service in the Southeastern United States includes substantial coverage gaps, particularly in rural areas, that could be easily filled by roaming with SouthernLINC Wireless. However, Nextel does not seem to consider this to be a priority. This indicates that the incentive to increase coverage may be significantly lower – or even absent altogether – for a carrier such as Nextel that primarily competes not on the basis of coverage, but on the basis of other differentiators, such as a unique service offering like PTT digital dispatch.[24]

The Commission has previously recognized that its PTT service is a key way in which Nextel has distinguished itself from its nationwide competitors. For example, the Commission stated that "since Nextel has differentiated its brand based in part on its

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22 / *Id.* at ¶ 175.

23 / *Id.* at ¶ 176.

24 / In the *Cingular/AT&T Order*, the Commission stated that "[t]he services provided by the mobile telephony carriers are differentiated on the following key bases: (1) quality, (2) coverage, and (3) plan features." *Id.* at ¶ 124.

signature PTT offering, and is also the only nationwide carrier to use iDEN, rather than CDMA or GSM/TDMA. . .the distinctive characteristics of Nextel's service offering or differences in equipment costs may prevent the other nationwide carriers from reaching an agreement with Nextel to restrict competition on price or other terms and conditions of service."[25] The Applicants themselves also state that "Nextel's business strategy has been to provide differentiated products and services in order to acquire and retain the most valuable customers in the wireless telecommunications industry."[26] Nextel's ability to differentiate itself competitively based on these characteristics, rather than on the extent of its coverage, demonstrates that Nextel may lack the "strong incentive to enter into roaming agreements" identified by the Commission in the *Cingular/AT&T Order*.

The Commission also stated in the *Cingular/AT&T Order* that "carriers offering a single-rate price plan have a strong incentive to negotiate to lower roaming rates they pay to other carriers" and that "competition and the need to generate revenues prevents nationwide carriers from refusing to enter into roaming agreements with smaller local and regional carriers or raising the roaming rates they charge other carriers above competitive levels."[27] While this may apply in the case of the numerous GSM and CDMA carriers, these factors are absent with respect to the U.S. iDEN market, where Nextel is the only nationwide carrier.

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25 / *Id.* at ¶ 159. In a footnote to this passage, the Commission wrote: "Although, as noted previously, several other major carriers recently introduced rival PTT offerings, some analysts believe these competitors' products are somewhat less attractive than Nextel's PTT service due to their longer 'latency,' a term that refers to delays in setting up a PTT call and the pushes between conversation breaks." *Id.* at fn. 410 (citations omitted).

26 / *Sprint/Nextel Merger Application* at 15.

27 / *Cingular/AT&T Order* at ¶ 176.

Despite SouthernLINC Wireless' long-running efforts, Nextel has thus far declined to enter into any arrangement that would permit Nextel customers to roam on SouthernLINC Wireless' network, and agreed, but only after lengthy negotiations, to allow SouthernLINC Wireless customers to roam on its network, albeit with severe restrictions on the service they can receive. As a result, Nextel is currently the recipient of any and all roaming revenues between the two companies and thus has no incentive to negotiate lower, competitive roaming rates.

Nextel also lacks a competitive incentive to enter into a roaming agreement with SouthernLINC Wireless as an independent regional iDEN carrier since there are, quite simply, no other iDEN competitors to Nextel with whom SouthernLINC Wireless could roam. The only other iDEN carrier in the United States is Nextel Partners, which is partially-owned by Nextel and which operates under the Nextel brand name. As described previously in these Comments, Nextel and Nextel Partners often do not act as separate companies, nor do they appear to operate at arm's length, and each provides the other with favorable roaming rates, terms, and conditions that they refuse to make available to SouthernLINC Wireless.

Additionally, in the *Cingular/AT&T Order*, the Commission stated that "customers of various firms always have the option to switch to firms employing other air interfaces" – *e.g.*, they could switch from a GSM carrier to a CDMA carrier.[28] However, as discussed elsewhere in these Comments, many customers of the three iDEN carriers rely on or value the unique services, capabilities, and characteristics, such as PTT digital dispatch, that can be found only on iDEN systems. Such a customer is highly unlikely to

[28] / *Id.* at ¶ 180.

switch to a carrier using a different air interface as a result of dissatisfaction with roaming if switching also means losing these iDEN-specific features and services. Again, the Applicants repeatedly point to the lack of close substitutability between iDEN and CDMA services and markets as one of the justifications for approving this merger.[29]

Conversely, both Nextel and Nextel Partners have a strong motivation to withhold roaming as a means of placing SouthernLINC Wireless – their only iDEN competitor – at a competitive disadvantage. For Nextel and Nextel Partners, this motive may far outweigh any benefit that they could provide their own subscribers by allowing them to receive roaming service in large areas of the Southeastern United States that are not covered by their own networks.

Overall, Nextel and Nextel Partners lack the competitive incentives to roam identified by the Commission in the *Cingular/AT&T Order* and have a strong motivation either to refuse to enter into a reciprocal roaming agreement with SouthernLINC Wireless or to insist that SouthernLINC Wireless accept rates, terms, and conditions for roaming that are not commercially reasonable. And, in fact, this is exactly what has happened. As a result, the current situation in the market for iDEN roaming services is not one of marketplace competition, but, if anything, of market failure.

V. CONCLUSION

SouthernLINC Wireless does not dispute that there may be potential public interest benefits to the proposed merger of Sprint and Nextel. However, as demonstrated above, Nextel and Nextel Partners have consistently and repeatedly engaged in unreasonable roaming practices to the detriment of wireless consumers, particularly those

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29 / *Sprint/Nextel Merger Application* at 25, 78 – 79, Attachment B at ¶¶ 86 – 106, 126, and 156, and Attachment C at ¶¶ 10 – 11.

who rely on the unique services and capabilities that can only be found on iDEN networks. There is already market failure for iDEN roaming. The combined Sprint/Nextel entity will have even greater market power and leverage, as well as the incentive, to allow it to continue Nextel's unreasonable roaming practices. Therefore, the proposed merger also brings with it potential harms which must be addressed.

In order to ensure that the proposed merger is in the public interest, SouthernLINC Wireless believes that the Commission should, at a minimum, seek any necessary assurances from the Applicants or adopt appropriate safeguards to protect wireless customers by ensuring that these practices will not continue and that the merged Sprint-Nextel entity will engage in good faith negotiations for roaming at reasonable rates and on reasonable, non-discriminatory terms and conditions.

WHEREFORE, THE PREMISES CONSIDERED, SouthernLINC Wireless respectfully requests the Commission to take action in this docket consistent with the views expressed herein.

Respectfully submitted,

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Dated: March 30, 2005

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I, Gloria A. Smith, do hereby certify that on this 30th day of March 2005, a copy of the foregoing "Comments of SouthernLINC Wireless" was sent by first-class mail, postage prepaid to each of the following:

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ATTACHMENT B

Report:

The Economics of Wholesale Roaming in CMRS Markets

R. Preston McAfee

The Economics of Wholesale Roaming in CMRS Markets

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California Institute of Technology

November 28, 2005

I. Introduction

The Federal Communications Commission ("the Commission") has issued a Memorandum Opinion and Order and Notice of Proposed Rule Making ("MOO" and "NPRM") reviewing the need for continuing manual roaming requirements and for imposing an automatic roaming requirement. It has been several years since the Commission has revised roaming requirements, and the Commercial Mobile Radio Services ("CMRS") market has experienced significant consolidation as well as entry of some regional operators. These factors justify an MOO/NPRM on roaming.

The CMRS industry is dominated by four large nationwide operators controlling a large share of available CMRS spectrum. These firms have begun using anti-competitive pricing policies in the wholesale market, apparently to limit the ability of smaller and more innovative carriers to enter and expand. Section 201(b) of the Telecommunications Act ("the Act") requires that "[a]ll charges, practices, classifications, and regulations for and in connection with [common carrier] service be just and reasonable," and that "any such charge, practice, classification, or regulation that is unjust or unreasonable is...unlawful."[1] However, existing regulations and policy guidelines have not impeded the spread of exclusionary wholesale roaming pricing practices and refusals to deal.

Competition for *retail* CMRS services appears vigorous. The Commission stated in its *Tenth Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services* that "[e]ven with fewer nationwide mobile telephone carriers to choose from, U.S. consumers continue to benefit from robust competition in

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[1] Telecommunications Act of 1996, Pub. LA. No. 104-104, 110 Stat. 56 (1996), at p. 35.

the CMRS marketplace."[2] In contrast, the competition in wholesale markets for roaming services is much less robust. The main reason for the difference is that distinct technologies, such as iDEN, CDMA, and GSM, compete head-on for retail consumers and may or may not be substitutes for consumers' needs. However, in wholesale markets, these distinct technologies are not substitutes, and this fact limits a carrier's options for roaming services. This situation is especially true for iDEN where, in almost all markets, SouthernLINC Wireless has only one potential supplier of wholesale roaming services. Similarly, there is now only one nationwide WCDMA network.[3] Wholesale competition is also limited for CDMA and GSM. For most technologies and geographic areas, regional CMRS providers have only one or two options for wholesale roaming services.

The nationwide carriers are using their market power to foreclose competition from regional carriers. As this report will demonstrate, Sprint/Nextel and its partially owned affiliate, Nextel Partners,[4] has used its market power to reduce the competitiveness of SouthernLINC Wireless and other iDEN providers by increasing charges for roaming services. Sprint/Nextel charges SouthernLINC Wireless excessive and anti-competitive roaming charges, reportedly in excess of retail rates.[5] Worse still, Nextel Partners has not offered SouthernLINC Wireless wholesale roaming at prices at

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[2] Federal Communications Commission's *Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, Tenth Report* (hereafter "*Tenth Annual Report*"), at ¶204.

[3] Until more spectrum is released, it is unlikely that anyone other than Cingular will have the spectrum available to deploy WCDMA except on a limited regional basis. The minimum sized carrier channel for WCDMA is 10 MHz, and generally 20 MHz, or two carrier channels, is regarded as the minimum amount of spectrum to offer seamless coverage.

[4] Sprint/Nextel is in the process of completing its acquisition of Nextel partners.

[5] See *In the Matter of Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers WT-Docket No. 05-265,* Comments of SouthernLINC Wireless, at 12-13 and Attachment A.

levels that could be of any benefit to SouthernLINC Wireless's retail customers[6]. As a result, SouthernLINC Wireless can only offer its customers limited roaming coverage outside the region in which it has spectrum. Other large carriers also charge other small or regional CDMA or GSM regional carriers wholesale rates that exceed average retail rates for comparable service.[7]

Anti-competitive pricing of wholesale roaming harms consumers. Such pricing forces actual and potential SouthenLINC Wireless customers—and customers of other regional CMRS providers—to choose between nationwide carriers and regional carriers with limited roaming. This adversely affects consumers in spite of nationwide retail competition because regional carriers offer differentiated, specialized, or innovative services, and may offer better local service coverage as well. Anti-competitive pricing of wholesale roaming needlessly restricts customer choices and creates unnecessary artificial impediments for entry of new carriers.

Current roaming regulations and policies toward "unjust and unreasonable" and "unlawful" charges do not provide small and regional carriers with a practical option for obtaining wholesale contracts for nationwide roaming services. Unaffiliated regional carriers are thereby precluded from competing for customers who would otherwise purchase their services. To ensure compliance with the mandate of the Act, the Commission should define standards for just and reasonable wholesale roaming charges. This issue is a potentially complex one, but the existence of retail competition provides a very straightforward means of limiting the exercise of market power at the wholesale

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[6] SouthernLINC Comments at 12-13 and Attachment A.
[7] *See, e.g.*, Leap Wireless International, Inc. (Leap Wireless), WT Docket No. 00-193, *Ex Parte*, filed July 12, 2005; *See also* Leap Wireless *Ex Parte*, filed August 17, 2005.

level. Quite simply, a carrier's wholesale roaming rates in a region should not exceed its lowest prevailing retail rates in that region.

The Commission should also impose a requirement that any facilities-based operator in a region provide automatic roaming under just and reasonable conditions to all other carriers using compatible technologies who do not have access to spectrum in that region. Together, these two requirements represent a minimally intrusive way for the Commission to ensure that the nationwide carriers do not squeeze smaller or regional carriers.

The next section describes competition in wholesale and retail markets. In particular, it identifies at least three distinct wholesale markets in each license area. The data presented in the next section show that in almost all markets there is a monopoly provider of wholesale iDEN services. The section also shows that, in most regions, there is a duopoly for wholesale service in at least one of the two other main digital CMRS technologies, CDMA and GSM.

In Section 3, this paper provides an analysis of the economic incentives for a nationwide CMRS operator, such as Sprint/Nextel, to offer wholesale services to firms that compete with it for subscribers in a limited geographic market. Section 3 explains why Sprint/Nextel and Nextel Partners have set roaming rates so high as to foreclose competition from regional iDEN suppliers for all but those consumers who have no interest in roaming. The analysis explains why this anti-competitive pricing of wholesale roaming is likely to persist even after integration of Nextel Partners into Sprint/Nextel, as well as why for other technologies, such as WCDMA, there is a single nationwide provider of wholesale roaming. This section also explains why, absent Commission intervention, these foreclosure incentives are likely to apply when there is a duopoly in the provision of wholesale roaming services, as is the case for iDEN in very few cellular market areas ("CMAs") or basic trading areas ("BTAs"), and is the case for CDMA and GSM operators in a great many BTAs and CMAs.

Section 4 describes some of the innovative services offered by regional carriers that are not available from nationwide carriers and explains the adverse effects of the current anti-competitive roaming pricing practices on consumers. Section 5 proposes the two recommended policies described above and considers the ease of implementation, regulatory burden, and likelihood of ending anti-competitive pricing practices.

II. Wholesale and Retail CMRS Markets Structure and Pricing Practices

The retail Commercial Mobile Radio Service ("CMRS") market is now dominated by four nationwide carriers: Cingular, Sprint/Nextel, T-Mobile and Verizon Wireless. The four operators deploy a combination of six technologies: Cingular offers AMPS, TDMA, GSM and WCDMA; Sprint/Nextel offers CDMA and iDEN; T-Mobile offers GSM; and Verizon Wireless offers AMPS and CDMA. Two technologies, analog AMPS and TDMA, are gradually being supplanted by newer digital technologies.[8] Carriers using the different technologies compete directly in retail markets but do not compete in wholesale markets.

Carriers offer differentiated retail products, especially across technologies. iDEN network operators have long had an advantage in offering a dispatch, push-to-talk

[8] In recognition of this, the Commission no longer distinguishes TDMA from GSM technology. *See Tenth Annual Report*, ¶ 110. Also, AMPS remains in use in rural areas and on a decreasing amount of spectrum in urban areas.

technology. GSM provides better international roaming capabilities and was the first technology to offer Short Messaging Service (SMS). CDMA has enjoyed advantages in higher data rates and data capabilities, as well as in allowing network operators to serve more subscribers on a given amount of spectrum.

The different technologies are incompatible in that mobile subscribers using one digital technology cannot roam on the network of an operator using a different digital technology.[9] Although these technologies compete for retail customers, the wholesale market for roaming services for each technology is a separate market because neither regional operators nor their subscribers have any ability to substitute. In addition, each geographic area is a separate market because wholesale minutes available in one region cannot be substituted for those in a different region. Moreover, retail minutes cannot be resold, which means that a nationwide carrier has the ability to charge more for wholesale roaming minutes than it charges its retail customers.

In many regions, the wholesale market for CMRS roaming services is not very competitive for any technology. This situation is especially true for iDEN, for which there is just one large nationwide iDEN operator (Sprint/Nextel, and its partially owned affiliate, Nextel Partners), SouthernLINC Wireless and a few other, small regional iDEN operators.[10] As a result of this market concentration, in most markets SouthernLINC Wireless can only purchase wholesale roaming from Sprint/Nextel or its affiliate Nextel

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[9] There are a few exceptions. One exception is that Cingular's WCDMA subscribers may be able to roam on a T-Mobile network as WCDMA terminals also often dual-mode, i.e., designed to operate on GSM networks. Another is that there were, at one point, a large variety of dual mode analog-digital handsets. The share of dual mode handsets sold each year is rapidly declining.

[10] Airpeak is probably the largest other firm using iDEN that connects to the PSTN. A few years ago, Mobex and Chadmoore also offered iDEN service. However, Mobex stopped operating in the 800 MHz bands (see http://www.mobex.com/pressreleases/19-RCR%20Article%203-22-04.htm) and Chadmoore was acquired by Nextel (see http://www.fcc.gov/transaction/nextel-chadmoore.html).

Partners.[11] *Nextel Partners' pricing offer has been at such a high rate that it is tantamount* to a refusal to negotiate. Moreover, in the areas Sprint/Nextel serves, they apparently charge SouthernLINC Wireless excessive rates for roaming, so high that SouthernLINC Wireless would greatly prefer the rates Sprint/Nextel offers individual retail customers over what it currently has to pay. It is not uncommon for large or nationwide carriers to charge unaffiliated carriers much more per minute for wholesale roaming than they charge retail customers, in spite of the fact that the nationwide carriers do not need to recoup gross customer acquisition costs, customer care costs, and billing costs from wholesale roaming as they do from retail roaming revenues.[12] These customer costs can be significant.[13] Other regional carriers have also indicated that they find the wholesale rates that nationwide carriers charge to be excessive.[14]

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[11] See SouthernLINC Comments at 11-14.and Attachment A Airpeak has some coverage in approximately half a dozen markets, the largest of which is Las Vegas, NV.

[12] Data on specific roaming agreements is generally confidential. However, there are a few reports of large carriers charging setting wholesale roaming rates for unaffiliated small or regional carriers in excess of 30¢ per minute even though they may charge affiliates less than 10¢ per minute. (see http://64.226.207.204/BTU042804.PDF). SouthernLINC Wireless has stated that they pay wholesale rates which are substantially higher than Nextel's retail rates. (See SouthernLINC Comments at 13) Also, Leap has stated it has "had difficulty negotiating reasonable, or even viable" wholesale rates. *See* Leap Wireless *Ex Parte*, filed August 17, 2005

[13] One report indicated customer acquisition costs of $300-400 (http://www.wirelessweek.com/article/CA237028.html?spacedesc=Business%2FFinance). A $350 customer acquisition cost coupled with churn of 1.5 to over 3% can mean that customer acquisition costs alone can account for between $8 and $13 or more per month from an average revenue per user of approximately a bit less than $49 for Cingular to over $60 for Sprint/Nextel. See http://www.boozallen.de/content/downloads/insights/5J_Winningt.pdf. Suncom reported these costs as $453 (http://www.eet.com/press_releases/prnewswire/showPressRelease.jhtml?articleID=X390968&CompanyId=1). Western Wireless reported these costs as $353 (http://biz.yahoo.com/e/050506/wwca10-q.html).

[14] Cf. 6.